EXHIBIT A

EXHIBIT A-1

To: Singh, Sumeet[S1St@pge.com]; Johnson, Aaron[AJJ9@pge.com]; Pender, Matthew[MTPa@pge.com]; Vallejo, Alex[AXVU@pge.com]; Koo, Alyssa (LAW)[ATK4@pge.com]; Thomas Jacobs, Caroline[Caroline.Thomas Jacobs@cpuc.ca.gov]; Palmer, Leslie L.[Leslie.Palmer@cpuc.ca.gov]; Morey, Candace[candace.morey@cpuc.ca.gov]; Strenfel, Scott[S7ST@pge.com];

Gilleran, Sean[SPGH@pge.com]; Ritter, Michael[MxRy@pge.com]

Kjensli, Nika[nika.kjensli@cpuc.ca.gov]; Duffey, Evan[EJDQ@pge.com]

From: Allen, Meredith[MEAe@pge.com]

Sent: Mon 3/8/2021 5:57:55 PM (UTC-08:00)

Subject: RE: Meeting re Proposed Conditions

CPUC Distribution HFTD Lidar Review for Potential Inclusion in PGE Distribution PSPS Criteria 2021-03-08 (003).pdf

All,

Cc:

Attached are the materials for the meeting.

Thank you, Meredith

----Original Appointment-----

From: Allen, Meredith

Sent: Thursday, March 3, 2005 12:17 PM

To: Allen, Meredith; Singh, Sumeet; Johnson, Aaron; Pender, Matthew; Vallejo, Alex; Koo, Alyssa (LAW); Thomas Jacobs, Caroline;

Palmer, Leslie L.; Morey, Candace; Strenfel, Scott; Gilleran, Sean; Ritter, Michael

Cc: Kjensli, Nika; Duffey, Evan

Subject: Meeting re Proposed Conditions

When: Monday, March 8, 2021 6:00 PM-7:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Microsoft Teams Meeting

Microsoft Teams meeting

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EXHIBIT A-1.1

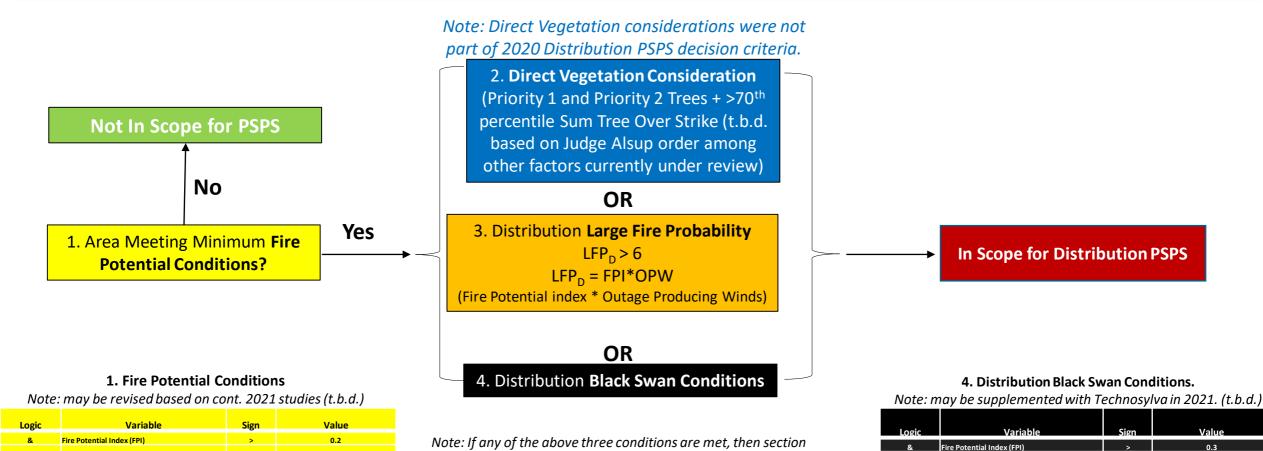
Distribution HFTD Lidar Vegetation Criteria for Potential Inclusion in PG&E Distribution PSPS Criteria





Potential 2021 PG&E Distribution PSPS Guidance

Distribution PSPS scope is determined by the following decision-making diagram. Direct vegetation considerations (blue) are potential additions to 2021 guidance. Please note that FPI, OPW, minimum fire potential conditions, and Black Swan criteria are all under study for potential enhancements in Q3 2021.



of distribution line is considered in scope for PSPS.

30

Some of the measures included in this document are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

Case 3:14-cr-00175-WHA Document 1358-1 Filed 03/23/21 P



Aerial Lidar Derived Tree Over Strike (Fall-In) on Distribution Conductor

Aerial Lidar data was collected in **2019 and early 2020** for distribution circuit corridors in HFTD by using Heliscope 2.5 sensor systems with helicopter flight altitudes between 330 to 500 ft above ground level.





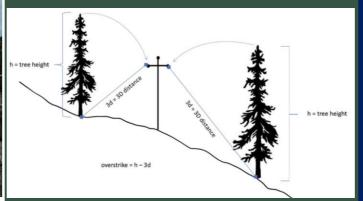


The Lidar coverage is specified to **cover at least 150ft** for both sides of the utility corridor (typically ~500ft captured).

Lidar point cloud rendering with red dots marks fall-in tree top detects, and orange dots marking detects of radial clearance vectors of nearest vegetation point to nearest line

A fall-in tree is a tree, which may fall over the nearest wire, when measured in 3D distance from the tree ground level to to the nearest phase of conductor wire. The greater the tree over strike, the greater range of angles the tree could fall at and still hit the line.

Tree Over Strike = Tree Height - 3D Distance

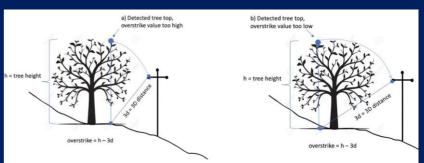


There are **7.3 million trees detected** through LiDAR in PG&E's HFTD distribution corridors, **of which 5.3 million trees could strike** the line (Fall-In) .

Aerial Lidar data provides **fewer point returns under dense tree canopies** reducing accuracy of detection of tree trunks. For large canopies, the tree top detection may over-estimate tree observations.



Detection of tree trunks form aerial Lidar is challenging due to point cloud data being less dense under tree canopies, so trees are detected through their tree tops.



Tree top could be detected closer to wire compared to the actual tree trunk which overestimates overstrike.

Tree top could be detected further from wire compared to the actual tree trunk, which underestimates overstrike.



Sensitivity Study: Adding Distribution Vegetation Guidance to 10 Year Climatology Study Base Line (2010-2019), Tree Over Strike, and HFTD Vegetation Caused Outages

Some of the measures included in this document are contemplated as additional precautionary measures intended to further reduce the risk of wildfire

Potential PSPS Distribution Vegetation Guidance Criteria:

+ Sum Lidar **Tree Over Strike** on Distribution Asset per POMMS Grid Cell > 70th percentile out of HFTD Lidar Data POMMS Grid Cells

AND

POMMS grid cell meeting **PG&E Fire Potential Conditions** (function of PG&E's Fire Potential Index, wind speed, relative humidity, and dead fuel moisture)

+ Priority 1 and Priority 2 Hazard Notification Trees

AND

POMMS grid cell meeting PG&E Fire Potential Conditions

Potential PSPS Distribution Vegetation Guidance Criteria based on Sum Lidar Tree Over Strike **captures the conditions at Zogg fire ignition location cell** which is at the 76th percentile, i.e. top quartile of vegetation overstrike exposure.

The potential PSPS Distribution Vegetation Guidance Logic relative to 2020 Base Line 10 year climatology study of PSPS events from 2010-2019 shows:

- additional PSPS events, increased customers impacted, and increased event duration,
- percentage increase in event duration and customer impacts is higher for smaller events, with less percentage increase for the largest events.

Guidance Study (2010-2019)		% Captured of All HFTD Veg. Outages in Cells > 70th Percentile (2008-2020) [see note]	PSPS Total Events 10 Year	% Increase from Baseline - PSPS Total Events 10 Year	Total 10 Year Customer	% Increase from Baseline - Total 10 Year Customer Hours** Impact	Total 10 Year	% Increase from Baseline - Total 10 Year Customer* Impact		% Increase from Baseline - Avg. Event Duration for Largest 27 Events	Avg. Customer* Impact for Largest 27 Events	% Increase from Baseline - Avg. Customer* Impact for Largest 27 Events	Max. Event Customer* Impact	% Increase from Baseline - Max. Event Customer* Impact
2020 10 Year Baseline (current models)	66%	70%	27	-	78,185,433	-	2,568,399	-	23	-	95,126	-	317,455	-
Baseline +>70th Percentile Sum Tree Over Strike	94%	90%	45	67%	117,709,137	51%	3,989,126	55%	28	22%	123,927	30%	341,905	8%

[note]: % Captured of HFTD Tree Over Strike, Vegetation Caused Outages 2008-2020, based on cells >70th percentile OPW with input sustained wind speed of 20mph, + net new cells >70th percentile tree over strike for the potential vegetation criteria study.

*Customer counts are distribution service points and are estimated at circuit level counting all customers wit HFTD secondary transformers on a circuit, and do not include customer impacts from Transmission PSPS.

**Customer Hours impacts is based on weather duration multiplied by the customer count for each event.

10 Year Total PSPS Events (2010-2019) Potential PSPS Distribution Vegetation Guidance 10 Year Climatology Study

	1.0	
County	base	70th 🗐
Butte	23	4
Yuba	25	43
Nevada	22	43
Placer	19	4:
Sierra	22	40
El Dorado	21	39
Shasta	16	38
Tehama	15	3
Napa	20	34
Sonoma	20	33
Amador	22	33
Calaveras	21	3
Lake	20	20
Humboldt	17	20
Trinity	8	2
Santa Cruz	16	2:
Madera	10	2:
Santa Clara	14	19
San Mateo	16	18
Tuolumne	10	1
Kern	13	1
Mendocino	9	1
Plumas	10	1
Yolo	12	17
Solano	10	1:
Monterey	8	9
Fresno	7	9
Glenn	4	4
San Luis Obispo	3	;
San Benito	2	;
Mariposa	1	:
Contra Costa	3	;
Santa Barbara	1	
Marin	1	
Colusa	2	
Alameda	2	1
Tulare	1	:
Stanislaus	1	
Kings	1	

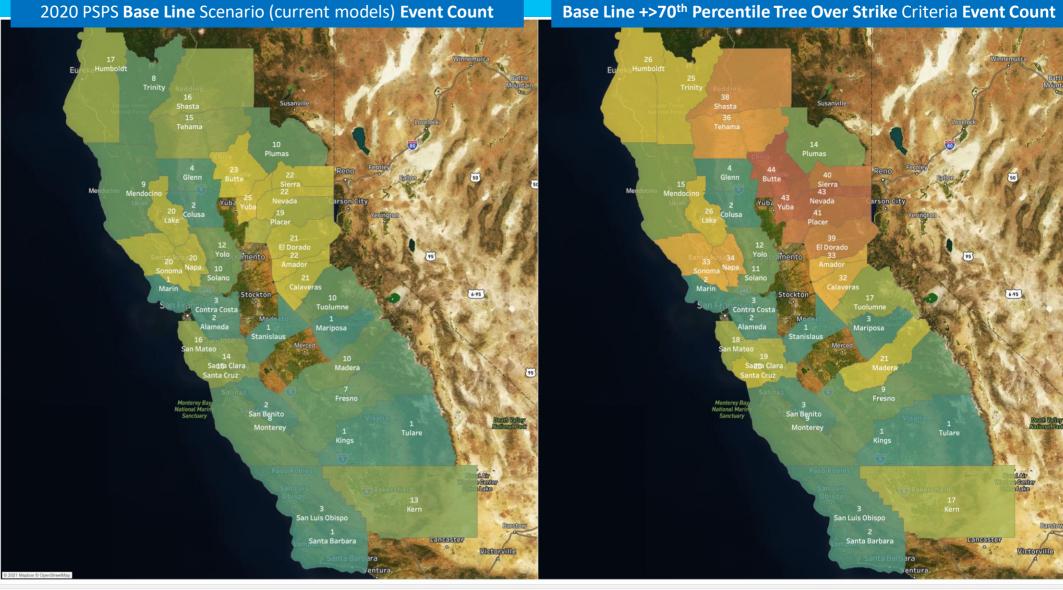


EXHIBIT A-2

Case 3:14-cr-00175-WHA Document 1358-1 Filed 03/23/21 Page 11 of 23

From: Allen, Meredith <MEAe@pge.com>
Sent: Sunday, March 14, 2021 10:38 AM

To: Thomas Jacobs, Caroline < Caroline. Thomas Jacobs@cpuc.ca.gov>; Palmer, Leslie L.

<Leslie.Palmer@cpuc.ca.gov>; Kjensli, Nika <nika.kjensli@cpuc.ca.gov>; Morey, Candace

<candace.morey@cpuc.ca.gov>

Cc: Singh, Sumeet <S1St@pge.com>; Ritter, Michael <MxRy@pge.com>; Vallejo, Alex <AXVU@pge.com>;

Strenfel, Scott <S7ST@pge.com>; Gilleran, Sean <SPGH@pge.com>; Duffey, Evan <EJDQ@pge.com>; Johnson, Aaron <AJJ9@pge.com>; Pender, Matthew <MTPa@pge.com>; Vallejo, Alex <AXVU@pge.com>;

Koo, Alyssa (LAW) <ATK4@pge.com>

Subject: Follow Ups - March 8 Meeting

Attach: 2021.03.04 - Dkt. 1330.pdf; Electric Regions Map 202103012.pdf

All,

Thank you for taking the time to meet with us on Monday.

Here are the follow up items from the meeting.

- Response dated March 4 Attached
- Map that translates existing regions to counties Attached
- HFTD miles broken down by Bay Area, Central Valley, Central Coast, North Coast, North Valley and Sierra, miles worked previously in each and miles currently planned in 2021 in each.
 - o The 2021 EVM Plan, as included in the 2021 WMP, is a minimum of 1,800 miles focused on the higher risk areas.

REGION	Total HFTD	2019 WV Miles	2020 WV Miles	2019 +2020	2021 WV Miles	2021 Plan Miles
	Miles				(as of 03/08/2021)	(subject to change)
Bay Area	2,199	224.3	206.9	431.2	0.1	80.9
Central Coast	4,149	367.6	154.5	522.1	0.0	33.0
Central Valley	5,655	630.5	731.0	1361.5	32.3	330.0
North Coast	4,514	584.0	249.0	833.0	3.6	248.2
North Valley	3,794	360.8	295.7	656.5	1.2	499.6
Sierra	5,031	331.6	240.8	572.4	14.2	713.6
Grand Total	25,342	2498.8	1877.9	4376.7	51.4	1905.2

• Approximate number of trees between 20 degrees and 25 degrees

Tan Oak in Central Coast, Bay and North Coast: 4,163
 Gray Pine in North Valley, Sierra and Bay: 9,482
 Total: 13,645

· Average customer impact for mid and small size PSPS events

The 27 events from the Base Line 2010-2019 climatology study are broken down into three groups of 9 events to further illustrate distribution of customer impacts across event sizes and their increase with the addition of the criteria on sum tree overstrike per grid cell & fire potential conditions.

	Avg. Customer* Impact for Largest 9 Events	Baseline - Avg.		Baseline - Avg.	lmpact for 19th to 27th Largest	% Increase from Baseline - Avg. Customer* Impact for 19th to 27th Largest Events
2020 10 Year Baseline (current models)	179,942		77,041	-	28,395	-
Baseline +>70th Percentile Sum Tree Over Strike	,	18%	96,746	26%	63,538	124%

Case 3:14-cr-00175-WHA Document 1358-1 Filed 03/23/21 Page 12 of 23

*Customer counts are distribution service points and are estimated at circuit level counting all customers with HFTD secondary transformers on a circuit, and do not include customer impacts from Transmission PSPS.

Please let me know if you have questions or would like additional information.

Thank you,

Meredith Allen Senior Director, Regulatory Relations Pacific Gas and Electric Company 415-828-5765

EXHIBIT A-2.1

1	JENNER & BLOCK LLP							
2	Reid J. Schar (<i>pro hac vice</i>) RSchar@jenner.com							
	353 N. Clark Street							
3	Chicago, IL 60654-3456							
4	Telephone: +1 312 222 9350							
5	Facsimile: +1 312 527 0484							
	CLARENCE DYER & COHEN LLP							
6	Kate Dyer (Bar No. 171891)							
7	kdyer@clarencedyer.com 899 Ellis Street							
8	San Francisco, CA 94109-7807							
	Telephone: +1 415 749 1800							
9	Facsimile: +1 415 749 1694							
10	CRAVATH, SWAINE & MOORE LLP							
11	Kevin J. Orsini (pro hac vice)							
	korsini@cravath.com 825 Eighth Avenue							
12	New York, NY 10019							
13	Telephone: +1 212 474 1000							
14	Facsimile: +1 212 474 3700							
	Attorneys for Defendant PACIFIC GAS AND ELECTRIC							
15	COMPANY							
16								
17	UNITED STATES DIS							
	NORTHERN DISTRICT OF CALIFORNIA SAN FRANCISCO DIVISION							
18	S/MVI M/MCISCO	DIVISION						
19	ANALES CELEBRAS OF AMERICA	G N 14 GD 00155 WWA						
20	UNITED STATES OF AMERICA,	Case No. 14-CR-00175-WHA						
	Plaintiff,	PG&E'S RESPONSE TO ORDER TO						
21		SHOW CAUSE WHY FURTHER						
22	v.	CONDITION OF PROBATION SHOULD NOT BE IMPOSED						
23	DACIFIC CAS AND ELECTRIC COMPANY							
	PACIFIC GAS AND ELECTRIC COMPANY,	Judge: Hon. William Alsup						
24	Defendant.							
25								
26								
27								
28								

Defendant Pacific Gas and Electric Company ("PG&E") respectfully submits this response to the Court's February 18, 2021 order to show cause as to why Probation Condition 1 should not be amended. (Dkt. 1308.)

On the understanding that the Court is proposing to amend Probation Condition 1 to require PG&E to comply with CAL FIRE's interpretation of California Public Resources Code section 4293 as set forth in CAL FIRE's February 6, 2019 submission to the Court, PG&E does not object to the new proposed probation condition. (Dkt. 1012.) Probation Condition 1 states that "the Court accepts CAL FIRE's interpretation of Section 4293 as set forth in its February 6 submission (Dkt. No. 1012)". (Dkt. 1040 at 1.) We understand CAL FIRE's February 6 submission to mean that not all trees subject to section 4293 that lean towards the line constitute hazard trees that need to be abated. We further understand CAL FIRE's submission to mean that, in determining whether a tree constitutes a hazard requiring removal for purposes of section 4293, "inspectors must use their professional judgment" based on the "specific circumstances, on a case-by-case basis". (Dkt. 1012 at 1.)

PG&E agrees that a healthy tree may be a hazard tree based on the factual circumstances specific to each tree. PG&E agrees to confirm to its vegetation management personnel that healthy trees may be hazard trees and to ensure that its vegetation management personnel are provided with and instructed to follow the guidance available from CAL FIRE for applying section 4293, including CAL FIRE's February 6 submission to this Court cited in Probation Condition 1 and CAL FIRE's field guide.

With respect to the specific issue of leaning trees, PG&E shares the Court's desire to find a practicable solution that, assuming that the Zogg Fire was caused by the subject Gray Pine, would have prevented the Zogg Fire. With that goal in mind, PG&E proposes the following bright-line approach that would go beyond what is required under state law: as long as CAL FIRE and the CPUC do not object, PG&E will institute a program to abate all Gray Pines tall enough to fall into a distribution line in a Tier 2 or Tier 3 HFTD that lean more than 20 degrees towards the line in four regions (Bay Area, Central Valley, North Valley and Sierra)

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and abate all Tanoaks tall enough to fall into a distribution line in a Tier 2 or Tier 3 HFTD that lean more than 20 degrees towards the line in three regions (Bay Area, Central Coast and North Coast). These trees will be targeted, regardless of health, because data shows that these particular species may present higher risk of falling into the line in these particular regions. The pace of the program would depend on the number of trees that need to be felled, but PG&E would attempt to get crews in the field doing this work as soon as practicable. As to other tree species, PG&E would continue with its broader enhanced vegetation management ("EVM") effort, which addresses trees of all species in high-fire threat areas and goes beyond what is required by state law to reduce wildfire risk.

Under EVM, PG&E is assessing every tree capable of striking the line using criteria developed by certified arborists to determine which trees present a sufficiently elevated risk such that they should be removed under the EVM program, regardless of health. As part of that program, the lean of each tree is assessed and used in the determination. Under current EVM standards, if a tree leans more than 25 degrees toward the line and is tall enough to fall into the line, it is abated under EVM. Trees with a smaller lean are evaluated for potential abatement. Given that EVM goes beyond the historical scope of routine vegetation management work, given the *many millions* of trees that surround PG&E's lines, and given that cutting trees with power tools close to bare, energized conductors is specialized and dangerous work, we continue to expect that the EVM program will continue to address about at least 1,800 miles per year. By the end of this year, PG&E expects to have completed EVM—*i.e.*, patrolled, worked and 100% work verified—for over 6,000 HFTD line miles, at a program cost of more than \$1.4 billion.

PG&E will also move forward on the other initiatives it is implementing this year to more aggressively address the potential for vegetation to strike its power lines in high-fire threat areas, which were described to the Court on February 19, 2021. (Dkt. 1310.) This includes expanding PSPS scoping criteria to account for open priority vegetation tags and vegetation density; focusing enhanced vegetation management in the highest 20% risk circuits;

deploying 95 new VMI program inspectors that will provide in-field coaching of inspectors; deploying approximately 200 new work verification inspectors to provide 100% work verification of routine vegetation management patrols in high-fire threat areas; and the use of vehicle-based LiDAR scanning to check vegetation clearances in high-fire threat areas.

PG&E proposes the additional program to address leaning Gray Pines and Tanoaks knowing that launching such a program while it is also implementing all of the other in-progress vegetation management programs is likely to produce operational challenges that will have to be overcome, particularly in identifying and managing capable foresters and tree crew resources that can perform the needed work safely and with high quality. PG&E has proposed this additional program for consideration by the Court, CAL FIRE and the CPUC because, weighing the considerations, it believes this would be an appropriate way to address the Court's concern with leaning trees.

PG&E looks forward to discussing the additional vegetation management proposal regarding Gray Pines and Tanoaks with the Court and the other interested parties.

CaSes&: 13414n-0.090.075776/MAHADdooouene1135830 Filled 03/124/21 Page 58061523

1	Dated: March 4, 2021	Respectfully Submitted,
2		JENNER & BLOCK LLP
3		
4		By: /s/ Reid J. Schar Reid J. Schar (pro hac vice)
5		_
6		CRAVATH, SWAINE & MOORE LLP
7		By: /s/ Kevin J. Orsini
8		Kevin J. Orsini (pro hac vice)
9		CLARENCE DYER & COHEN LLP
10		
11		By: <u>/s/ Kate Dyer</u> Kate Dyer (Bar No. 171891)
12		
13		Attorneys for Defendant PACIFIC
14		GAS AND ELECTRIC COMPANY
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	DC%E'S DESDONSE WUV	5 FURTHER CONDITION SHOULD NOT BE IMPOSED

EXHIBIT A-2.2

PG&E Regions

March 2021



North Coast

Humboldt, Lake, Marin, Mendocino, Napa and Sonoma

Bay Area

Alameda, Contra Costa and San Fransisco

Central Valley North

Alpine, Amador, Calaveras, Madera, Mariposa, Merced, San Joaquin, Stanislaus and Tuolumne

Central Valley South

Fresno, Kern, Kings and Tulare

North Valley

Butte, Glenn, Lassen, Plumas, Shasta, Siskiyou, Tehama and Trinity

Sacramento/Sierra

Colusa, El Dorado, Nevada, Placer, Sierra, Solano, Sutter, Yolo and Yuba

Central Coast

Monterey, San Benito, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara and Santa Cruz

EXHIBIT A-3

Vallejo, Alex

From: Morey, Candace <candace.morey@cpuc.ca.gov>

Sent: Thursday, March 18, 2021 10:04 AM

To: Allen, Meredith; Singh, Sumeet; Johnson, Aaron; Pender, Matthew; Vallejo, Alex; Koo,

Alyssa (LAW); Thomas Jacobs, Caroline; Palmer, Leslie L.; Strenfel, Scott; Gilleran, Sean;

Ritter, Michael

Cc: Kjensli, Nika; Duffey, Evan

Subject: RE: Meeting re Proposed Conditions

*****CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.****

Meredith, can you clarify for me what is reflected in the "PSPS Total Events 10 Year" – is that the average of the total number of events in each county in PG&E territory over the 10-year period? (It's not an average annual number of events correct?) Trying to understand the difference between slides 4 and 5.

Thank you Candace

From: Allen, Meredith <MEAe@pge.com> Sent: Monday, March 8, 2021 5:58 PM

To: Singh, Sumeet <S1St@pge.com>; Johnson, Aaron <AJJ9@pge.com>; Pender, Matthew <MTPa@pge.com>; Vallejo,

Alex <AXVU@pge.com>; Koo, Alyssa (LAW) <ATK4@pge.com>; Thomas Jacobs, Caroline

<Caroline.ThomasJacobs@cpuc.ca.gov>; Palmer, Leslie L. <Leslie.Palmer@cpuc.ca.gov>; Morey, Candace

<candace.morey@cpuc.ca.gov>; Strenfel, Scott <S7ST@pge.com>; Gilleran, Sean <SPGH@pge.com>; Ritter, Michael

<MxRy@pge.com>

Cc: Kjensli, Nika <nika.kjensli@cpuc.ca.gov>; Duffey, Evan <EJDQ@pge.com>

Subject: RE: Meeting re Proposed Conditions

All,

Attached are the materials for the meeting.

Thank you, Meredith

-----Original Appointment-----

From: Allen, Meredith

Sent: Thursday, March 3, 2005 12:17 PM

To: Allen, Meredith; Singh, Sumeet; Johnson, Aaron; Pender, Matthew; Vallejo, Alex; Koo, Alyssa (LAW); Thomas Jacobs,

Caroline; Palmer, Leslie L.; Morey, Candace; Strenfel, Scott; Gilleran, Sean; Ritter, Michael

Cc: Kjensli, Nika; Duffey, Evan

Subject: Meeting re Proposed Conditions

When: Monday, March 8, 2021 6:00 PM-7:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Microsoft Teams Meeting

Microsoft Teams meeting

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<u>+1 415-906-0873,,329029884#</u> United States, San Francisco

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